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EXAMINER

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ART UNIT	PAPER NUMBER
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2644

DATE MAILED: 04/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/458,353

Applicant(s)

ANDERSON ET AL.

Examiner

Tony M Jacobson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-51 and 55-74 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-51 and 55-74 is/are rejected.
- 7) ☒ Claim(s) 74 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 December 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 31, 35, 39, and 44 are objected to because of the following informalities:
Claim 31 recites "wherein the host adapter adjusts the its filtering and compensation circuitry". It appears that only one of "the" or "its" was intended to be included.
Claim 44 recites "The method of claimed 41, wherein ...". The word "claimed" appears to be a typographical error for "claim". Similar typographical errors appear in line 1 of claims 35 and 39. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
3. Claims 8, 15, 22, and 32 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The amended claims contain new matter that was not described in the disclosure as originally filed. The new matter contained in the amendments consists of the limitation of "the memory device being configured to allow the preference characteristics to be repeatedly modified and stored during use of the headset". The original disclosure includes no reference to "preference

characteristics".

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 8, 15, 22, 32, 62, 67, 70, and 73 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claims 8, 15, 22, and 32, recite the limitation "preference characteristics" in lines 5-6 of claim 8, line 6 of claim 15, line 9 of claim 22, and lines 8-9 of claim 32. There is insufficient antecedent basis for this limitation in the claims. It appears that Applicant intended to recite "performance characteristics" in each case, and the following prior-art rejections are based on this assumption.

7. Claim 62 recites a list of limitations without clearly indicating whether the limitations are an amalgamation or alternatives (i.e. "and" or "or"). The following claim rejections are based on the assumption that the word "and" was intended before the last limitation of the list.

8. Claims 67 and 70 recite the limitation "the member device of the headset" in line 6 of claim 67 and line 7 (including deleted lines) of claim 70. There is insufficient

antecedent basis for this limitation in the claims.

9. Claim 73 recites the limitation "the headset adapter" in line 7 of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-31, 41-51, 67-70, and 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brint et al. (US 4,876,712) in view of Wong et al. (US 5,881,103) and Roach et al. (US 6,453,103).

12. Regarding claims 1, 2, 4, 5, 8, 10-13, 15, 17-20, 22-24, 26, 28-31, 67, 68, and 70, Brint et al. discloses an apparatus comprising a headset (12) having a headphone for receiving audio signals, a microphone assembly for transmitting audio signals, and a device implemented within a cable quick disconnect (20) of the headset (in the form of the configuration of connector 20, see column 3, line 56 –column 4, line 8), selectively in communication with the host adapter, storing a first set of performance characteristics/preference settings of the headphone and a second set of performance characteristics/preference settings for the microphone assembly of the headset (column

3, lines 22-62); a host adapter (10) selectively coupled to the headset and having performance parameters, coupled to the headset, having means for transmitting audio signals to the headphone of the headset and receiving audio signals from the microphone assembly of the headset, said host adapter having adjustable filtering and compensation circuitry, wherein the host adapter has an interface and processor (column 3, lines 48-62), making it capable of accessing the information stored in the quick disconnect of the headset in order to read the performance characteristics/preference settings of the headphone and the microphone assembly and, equivalently, filtering and compensation circuitry parameters and settings. (The device (20) of the headset of Brint et al. stores, in encoded form, the information necessary to represent the required performance parameters for the host interface (10), which is also an encoded representation of the performance characteristics of the particular headset. Since the information stored in memory device (20) is selected to cause the system to perform in a preferred manor, the information also represents preference settings, as broadly as claimed. Thus, the several settings stored in device (20) can be variously named "performance characteristics", "performance parameters", and "preference settings".) The host adapter adjusts its performance parameters in accordance with the parameters/settings read from the device, thereby adjusting the audio signals transmitted to the headphone as a function of the first set of performance characteristics/preference settings read from the device and adjusting the audio signals received from the microphone assembly of the headset as a function of the second set of performance characteristics/preference settings read from the device (column 3, lines

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1-62). Brint et al. does not disclose that the device (20) of the headset which stores performance characteristics of the headset and, equivalently, performance parameters for the host adapter is a digital memory device configured to allow the preference settings to be repeatedly modified and stored during use of the headset. Wong et al. discloses generally, an electronic device with an equalized audio accessory such as a microphone, speaker, or the like (see abstract, Figs. 1-5, and column 1, lines 14-15) and corresponding method, in the form of an electronic device, which provides equalization and/or compensation for an audio accessory coupled to the electronic device in accordance with performance parameters stored in a non-volatile memory device contained in the audio accessory (Figs. 2 and 3; column 2, lines 28-67). The electronic device of Wong et al. accesses the memory of the audio accessory through a serial port to read the preference settings, as disclosed at column 3, lines 2-8. Roach et al. discloses a method and system for remote calibration of a telephone headset according to an individual user's preferences, as described at column 1, lines 64-67. The disclosure indicates generally that the preferences can be updated repeatedly, as desired and that the settings and parameters are stored in memory circuitry of the headset (column 2, lines 11-19). It would have been obvious to one of ordinary skill in the art at the time the present invention was made to apply the teachings of Wong et al. and Roach et al. to the headset and host adapter of Brint et al. by using a memory device that is non-volatile as taught by Wong et al., can be reprogrammed during use as taught by Roach et al., and is located in the headset, as taught by both Wong et al. and Roach et al., specifically, located in a cable quick disconnect (as with the storage device

of Brint et al.) or any other convenient location; adapting the interface of the host adapter to access the non-volatile memory device through a serial interface as taught by Wong et al.; and storing both performance characteristics of the headset as taught by Brint et al. and Wong et al. and user preferences as taught by Roach et al. in the memory device of the headset, in order to allow more information to be stored, to reduce the number of signal conductors required in the host interface connector, to allow the information to be updated after manufacture, to allow the information to be more easily customized to a particular individual headset, and to allow individual user preferences to be saved.

13. Regarding claim 3, as indicated above regarding claim 1, the device storing performance parameters in the headset system of Brint et al. is implemented within a cable quick disconnect (20) of the headset. Official notice is taken that it was well known in the electronic design arts at the time the present invention was made to place electronic circuitry in any convenient location where space is available, and also to place circuitry of a headset within a headphone of the headset. It would have been obvious to one of ordinary skill in the art at the time the present invention was made to place the memory of the headset of Brint et al., modified according to the teachings of Wong et al. as described above, in any convenient location, such as within a headphone of the headset.

14. Regarding claim 6, Brint et al. discloses at column 3, lines 6-38 that the preference settings or performance characteristics include volume level and frequency shaping characteristics (inherently comprising treble and bass levels) of the headset. It would have been obvious to one of ordinary skill in the art at the time the present invention was made to select "preferred" levels as the settings.

15. Regarding claim 7, Roach et al. discloses at column 1, lines 64-67 that the headset adapts to an individual user's preferences, and the disclosure implies generally that the preferences can be updated repeatedly, as desired. It would have been obvious to one of ordinary skill in the art at the time the present invention was made to include this capability in the system of Brint et al., modified according to the teachings of Wong et al. and Roach et al. as described above, by providing means for the user to update the preference settings as desired.

16. Regarding claims 9 and 16, the memory device (20) of the system of Brint et al., modified according to the teachings of Wong et al. and Roach et al. as described above regarding claims 8 and 15, stores filtering and compensation circuitry parameters and settings which are determined as a function of the performance characteristics of the headphone and the microphone (see column 1, lines 40-43 of Brint et al. and column 2, lines 52-62 of Wong et al.).

17. Regarding claims 14, 21, 44, 48, 69, and 72, since the host adapter of Brint et al., modified according to the teachings of Wong et al. and Roach et al. as described above, is configured to adjust the gain and frequency responses of the transmit (from the microphone assembly) and receive signals (to the headphone) according to the settings stored in the memory device of the headset, as disclosed at column 3, lines 6-55 of Brint et al., the performance characteristics of the headphone and the microphone assembly stored in the memory device inherently include receive and transmit signal frequency responses and gains.

18. Regarding claims 25 and 27, since the host adapter of Brint et al., modified according to the teachings of Wong et al. and Roach et al. as described above, adjusts its receive and transmit gains and frequency shaping characteristics according to the settings stored in the memory device, which are based upon the performance characteristics of the headphone and microphone assembly of the headset (column 3, lines 6-62), the system of Brint et al. stores information representing performance characteristics of the headset, including transmit frequency responses of the headphone, a receive signal gain of the headphone, a transmit frequency response of the microphone assembly, and a transmit signal gain of the microphone assembly. Brint et al. does not disclose that a receive audio level at the headphone, an impedance characteristic of the headphone, a signal-to-noise ratio at the headphone, a transmit audio level of the microphone assembly, an impedance characteristic of the microphone assembly, nor a signal-to-noise ratio of the microphone assembly are stored in the

memory device. Although it is necessary to measure a receive audio level at the headphone and a transmit audio level of the microphone assembly in order to determine a receive signal gain of the headphone and a transmit signal gain of the microphone assembly, respectively; by themselves these measurements are likely of limited value, because they depend upon the levels of the driving signals applied. If the levels of the driving signals used in the measurements are known, the receive audio level at the headphone and the transmit audio level of the microphone assembly are inherently stored in the form of the corresponding gain values. Official notice is taken that impedance and signal-to-noise ratio are well-known performance characteristics of audio transducers such as headphones and microphones, and means for performing impedance and signal-to-noise ratio measurements of audio transducers were also well-known. It would have been obvious to one of ordinary skill in the art at the time the present invention was made to include any other performance characteristics of the headset, such as measurements of the impedance characteristics and signal-to-noise ratios of a headphone and microphone assembly in the set of operating characteristics measured, increasing the memory capacity of the headset to carry such data if necessary, so that the host interface can provide a better-matched performance set of parameters to a given headset.

19. Regarding claims 41-43, 45-47, and 49-51, as described above regarding claim 1, the system of Brint et al., modified according to the teachings of Wong et al., and Roach et al. performs the method of storing a plurality of performance

characteristics of the headphone and the microphone assembly of a headset in a memory device of the headset; accessing the memory device through a serial port and reading the performance characteristic stored in the memory device by a host adapter in selective communication with the headset memory device; adjusting the audio signals provided (transmitted) to and received from the headset as a function of the performance characteristics read from the memory device by the host adapter, wherein the audio signals are provided to and received from the headset by a host adapter which automatically adjusts the audio signal provided to the headset using filtering and compensation circuitry, before it is provided to the headset, and automatically adjusts the audio signal received from the headset, as a function of (in accordance with) the performance characteristics read from the memory device, and repeating the storing, reading, and adjusting upon modification of the performance characteristics in the headset memory device, as implicitly taught by Roach et al. at column 1, line 64 – column 2, line 19.

20. Further regarding claims 67 and 70, although Wong et al. do not explicitly teach a memory device that is further configured to allow the performance characteristics to be repeatedly modified and stored during use of the headset, Wong et al. does disclose at column 2, lines 14-16 and lines 62-64 that the memory (220) is preferably non-volatile, so that the performance characteristic information is retained even when power is not applied to the accessory. This would imply to one of ordinary skill in the art that random-access memory (RAM) devices are contemplated (as well as possibly ROM

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devices), as, if one intended to refer to read-only memory devices (ROMs) only, excluding RAMs, one would typically recite "ROM", rather than "non-volatile memory". Official notice is taken that various forms of non-volatile random-access memory devices (such as "flash memory" devices) were notoriously well known in the art at the time the present invention was made. It would have been obvious to one of ordinary skill in the art at the time the present invention was made to modify and manufacture the headset of Brint et al. according to the teachings of Wong et al. and common knowledge in the art, by utilizing a non-volatile RAM, such as a "flash memory" in the cable quick disconnect (as with the crude memory device of Brint et al.) or in a headphone of the headset (as implied by Wong et al. by "within the audio accessory device" at column 2, line 16) in order to provide a memory device that is allows (is configured to allow) the performance characteristics to be subsequently and repeatedly modified and stored during use of the headset.

21. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brint et al. (US 4,876,712) in view of Wong et al. (US 5,881,103).

22. Regarding claim 32, Brint et al. discloses a headset (12) having at least one headphone and a microphone assembly, which is manufactured with a device (20) in a cable quick disconnect of the headset that stores performance characteristics of the headset (column 3, lines 56-62). Wong et al. discloses in Figs. 1 and 2 an electronic device with equalized audio accessories (120) (such as microphones and speakers)

with a memory device (220) contained in each accessory that stores information corresponding to performance characteristics of the respective accessory. The method of manufacturing the headset of Wong et al. comprises enclosing a memory device within the audio accessory (column 2, lines 12-16); measuring performance characteristics of the accessory (Fig. 5, step 510); and storing the performance characteristics in the memory device (Fig. 5, step 520), the memory device being configured to selectively couple to a host adapter (the electronic device) for accessing the memory. Although Wong et al. do not explicitly teach a memory device that is further configured to allow the [performance] characteristics to be subsequently and repeatedly modified and stored during use of the headset, Wong et al. does disclose at column 2, lines 14-16 and lines 62-64 that the memory (220) is preferably non-volatile, so that the performance characteristic information is retained even when power is not applied to the accessory. This would imply to one of ordinary skill in the art that random-access memory (RAM) devices are contemplated (as well as possibly ROM devices), as, if one intended to refer to read-only memory devices (ROMs) only, excluding RAMs, one would typically recite "ROM", rather than "non-volatile memory". Official notice is taken that various forms of non-volatile random-access memory devices (such as "flash memory" devices) were notoriously well known in the art at the time the present invention was made. It would have been obvious to one of ordinary skill in the art at the time the present invention was made to modify and manufacture the headset of Brint et al. according to the teachings of Wong et al. and common knowledge in the art, by utilizing a non-volatile RAM, such as a "flash memory" in the cable quick

disconnect (as with the crude memory device of Brint et al.) or in a headphone of the headset (as implied by Wong et al. by "within the audio accessory device" at column 2, line 16) in order to provide a memory device that is allows (is configured to allow) the performance characteristics to be subsequently and repeatedly modified and stored during use of the headset.

23. Claims 33-35 and 37-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brint et al. (US 4,876,712) in view of Wong et al. (US 5,881,103) as applied to claim 32 above, and further in view of Hendrix (US 4,788,708).

24. Regarding claims 33 and 37, Hendrix discloses, generally, a system for testing and measuring performance characteristics of headsets as they leave the factory, as well as for follow-up maintenance testing (column 1, lines 30-33). Measuring the performance characteristics of the headset using the test system of Hendrix comprises coupling the headset to a test apparatus as suggested by Fig. 1 of Hendrix; transmitting an audio test pattern from the test apparatus to the headphone of the headset; measuring the performance characteristics of the headphone; transmitting an audio test signal from microphone assembly of the headset to the test apparatus; and measuring the performance characteristics of the microphone assembly as indicated by Fig. 6 of Hendrix. It would have been obvious to one of ordinary skill in the art at the time the present invention was made to measure the performance characteristics of the headset of Brint et al., modified according to the teachings of Wong et al. as described above

according to this method taught by Hendrix.

25. Regarding claim 34, the headset test system of Hendrix measures performance characteristics of a headset, including frequency response of the headphone (Fig. 6), received audio signal level (Fig. 6), and received signal-to-noise level (Fig. 8, step 348). The measurement of received audio signal level, combined with a knowledge of the driving signal level, inherently indicates the received signal gain or, equivalently, a receive sensitivity of the headphone. Official notice is taken that impedance is a well-known important characteristic of audio transducers such as headphones and means for performing impedance measurements of audio transducers were also well-known. It would have been obvious to one of ordinary skill in the art at the time the present invention was made to include a measurement of the impedance characteristic of a headphone in the set of operating characteristics measured and stored in the memory device of the headset, increasing the memory capacity of the headset to carry such data if necessary, so that the host interface can provide the best-matched performance parameters to a given headset.

26. Regarding claim 35, following measuring the performance characteristics of the headphone of the headset using the headset test system of Hendrix as described above regarding claims 32 and 33, it would have been obvious to one of ordinary skill in the art at the time the present invention was made to determine a set of filtering and compensation parameters for the host as a function of the measured performance

characteristics of the headphone and store the determined parameters in the memory of the headset as taught at column 4, lines 35-41 of Wong et al.

27. Regarding claim 38, the headset test system of Hendrix measures performance characteristics of a headset, including transmit signal audio level (Fig. 7) and transmit signal-to-noise level (Fig. 9, step 366). The measurement of transmit signal audio level, combined with a knowledge of the driving signal level, inherently indicates a transmit sensitivity of the microphone assembly. Official notice is taken that impedance is a well-known important characteristic of audio transducers such as microphones and means for performing impedance measurements of audio transducers were also well-known. It would have been obvious to one of ordinary skill in the art at the time the present invention was made to include a measurement of the impedance characteristic of a microphone assembly in the set of operating characteristics measured, increasing the memory capacity of the headset to carry such data if necessary, so that the host interface can provide the best-matched performance parameters to a given headset.

28. Regarding claim 39, following measuring the performance characteristics of the microphone assembly of the headset using the headset test system of Hendrix as described above regarding claims 32 and 37, it would have been obvious to one of ordinary skill in the art at the time the present invention was made to determine a second set of filtering and compensation parameters for the host as a function of the measured performance characteristics of the microphone assembly and store the

determined parameters in the memory of the headset as taught at column 4, lines 35-41 of Wong et al.

29. Claims 36 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brint et al. (US 4,876,712) in view of Wong et al. (US 5,881,103), and Hendrix (US 4,788,708) as applied to claims 33 and 37 above, and further in view of Roach et al. (US 6,453,042).

30. Regarding claims 36 and 40, neither Brint et al. nor Wong et al. teaches storing an audio test pattern in the memory device of the headset or audio accessory for future reference. Roach et al. discloses a headset storing user preferences and performance parameters in a non-volatile read-write (flash) memory (column 3, lines 29-31; column 8, line 23 –column 11) of the headset. In the headset of Roach et al., an audio test pattern is stored in memory of a base unit (host adapter). Roach et al. discloses at column 7, lines 17-22 that in alternative embodiments, the headphone base unit may become directly incorporated in the headphone itself. The result would be an audio test pattern stored in the memory of the headset. It would have been obvious to one of ordinary skill in the art at the time the present invention was made to store the audio test pattern in the memory of the headset, according to the teachings of Roach et al. in order to allow the headset to be calibrated independently of a special test apparatus.

31. Claims 55 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mauney (US 5,734,713) in view of Widin et al. (US 4,992,966) and Gurne et al. (US 5,541,840).

32. Regarding claims 55 and 56, Mauney et al. discloses a headset having a memory device, but does not disclose that the memory device of the headset stores a production date, a serial number, a service date, nor a type of service performed on the headset. Widin et al. discloses a calibration device and auditory prosthesis (which could comprise a headset) having calibration information and manufacturing information stored within a memory of the prosthesis. As indicated at column 7, lines 42-44, as part of the information stored in the memory of the prosthesis, a serial number, revision level, place of assembly, and date code are included. Gurne et al. discloses an automobile having a computerized controller with a memory and an associated diagnostic tool. At column 9, line 44 –column 10, line 9 Gurne et al. discloses a mode of operation in which service history information of the automobile, including service date and type (column 9, lines 53-58) is stored in the memory of the automobile and later read from the memory. One of ordinary skill in the art at the time the present invention was made would have recognized that this teaching is of value in relation to any apparatus subject to service, having a writable memory. It would have been obvious to one of ordinary skill in the art at the time the present invention was made to apply the teachings of Widin et al. and Gurne et al. to the headset of Roach et al. by storing any useful information such as production date, serial number, service dates,

and types of services performed within the memory of the headset, and further to repeat the storing and reading upon modification of the service date and type of service performed as generally implied by the method of Gurne et al. in order to maintain current service information.

33. Claims 57-66 and 71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brint et al. (US 4,876,712) in view of Wong et al. (US 5,881,103), Roach et al. (US 6,453,042), and Liebenow (US 6,530,083).

34. Regarding claims 57, 60 and 63, as described above, Brint et al. discloses a headset and host adapter, the headset having a device in a cable quick disconnect of the headset storing information corresponding to performance characteristics of the headset, and the host having an interface to retrieve the performance characteristic information from the device and programmable filtering and compensation circuitry configured to adjust the performance parameters of the host according to the information retrieved from the quick disconnect device of the headset. The information is stored in the configuration of a number of pins in the quick disconnect connector (configured to be selectively coupled to the host adapter capable of accessing the data stored in the device of the quick disconnect), corresponding to a binary pattern, as opposed to a conventional digital memory device. Wong et al. discloses generally, an electronic device with an equalized audio accessory such as a microphone, speaker, or the like (see abstract, Figs. 1-5, and column 1, lines 14-15) and corresponding method,

in the form of an electronic device, which provides equalization and/or compensation for an audio accessory coupled to the electronic device in accordance with performance parameters stored in a non-volatile memory device contained in the audio accessory (Figs. 2 and 3; column 2, lines 28-67), the memory being configured to be selectively coupled to the host adapter (the electronic device) capable of accessing the memory. The electronic device of Wong et al. accesses the memory of the audio accessory through a serial port to read the preference settings, as disclosed at column 3, lines 2-8. It would have been obvious to one of ordinary skill in the art at the time the present invention was made to apply the teachings of Wong et al. to the headset and host adapter of Brint et al. by using a non-volatile memory device located in a cable quick disconnect (as with the storage device of Brint et al.) or any other convenient location; adapting the interface of the host adapter to access the non-volatile memory device through a serial interface; and storing the information stored in the connector configuration of the headset of Brint et al. in the memory device of the headset, in order to allow more information to be stored, to reduce the number of signal conductors required in the host interface connector, to allow the information to be updated after manufacture, or to allow the information to be more easily customized to a particular individual headset. The system of Brint et al., modified according to the teachings of Wong et al. as described above, comprises the host adapter (10) (for providing signals to and from a headset having a memory device); a headset (12) with memory for storing information representing the desired performance parameters; and a memory interface within the host adapter for retrieving the performance parameter information when the

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headset with memory is coupled to the host adapter, thereafter setting a series of performance parameters of the host adapter according to the retrieved performance parameter information in order to adjust the signals provided to and from the headset with memory in accordance with the information representing the desired performance parameters (column 3, lines 1-62). Brint et al. does not disclose that the stored information is based upon user-defined preferences, nor that multiple sets of user-defined preference information are stored in the memory, retrieved, and the performance parameters of the host adapter set according to which particular user is using the headset. Roach et al. discloses a system comprising a headset (701) with memory and an associated host adapter (703), in which a number of settings corresponding to user preferences (column 1, lines 64-67) and performance parameters of the system are determined and stored in the headset (column 2, lines 11-18). It was well known in the audio signal processing art at the time the present invention was made to, in audio devices having programmable performance parameters where multiple users are anticipated, provide means for storing a plurality of sets of performance characteristics, each set corresponding to the preferences of an individual user. Liebenow discloses a system for providing personalized settings for a plurality of users of an information handling system such as an audio system (column 2, lines 58-64) and telephony systems (column 3, lines 5-10), in which an individual user preference profile is stored for each user of the information handling system, recalled according to which user or users are presently using the system, and corresponding system performance parameters are updated according to the user preferences.

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Although the system of Liebenow is capable of accommodating a group of users at one time and adapting performance parameters according to a compromise between the individual preferences of the group members, in the simplest case the performance parameters are set directly based upon the preferences of a single user (column 8, lines 30-38). It would have been obvious to one of ordinary skill in the art at the time the present invention was made to provide means for user-defined preferences to be stored in the memory of the headset of Brint et al., modified according to the teachings of Wong et al. as described above, and provide means for the performance parameters of the host to be set according to user-defined preferences stored in the memory of the headset, according to the teachings of Roach et al.; and to provide means for storing and recalling a plurality of user preference profiles corresponding to a plurality of users, according to the teachings of Liebenow in order to produce a headset that is easily adapted between preferences of a plurality of users.

35. Regarding claims 58, 59, 61, and 62, Liebenow discloses at column 9, lines 8-14 that in an audio system, a user preference profile may include volume, bass, and treble settings, which includes at least one of a volume level, a bass level, a treble level, and a balance level. It would have been obvious to one of ordinary skill in the art at the time the present invention was made to utilize any of these preferences in the memory structure of the headset of Brint et al., modified as described above regarding claims 57, 60, and 63.

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36. Regarding claims 62 and 64-66, Liebenow discloses at column 9, lines 8-14 that in an audio system, a user preference profile may include volume, bass, and treble settings. Official notice is taken that, at the time the present invention was made, headsets having two headphones were notoriously well known and balance level was a notoriously well known user-adjustable parameter of audio systems having multiple output transducers. It would have been obvious to one of ordinary skill in the art at the time the present invention was made to substitute a headset having two headphones for the single-ear headset of Brint et al., and to include balance level among the user-defined preferences (corresponding to host performance parameters) stored in the memory of the headset of Brint et al., modified according to the teachings of Wong et al., Roach et al., and Liebenow as described above regarding claims 57, 60, and 63 to provide a sound output that is balanced between both ears of a user despite possible differences between the responses of the two transducers or between the user's ears.

Allowable Subject Matter

37. Claim 73 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

38. Claim 74 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims (or simply correcting the basis for rejection of

claim 73 under 35 USC 112, second paragraph).

39. The following is a statement of reasons for the indication of allowable subject matter: The prior art does not teach or fairly suggest a method for retrieving headset preference settings from a headset with memory, comprising: identifying a headset user from a plurality of users via a user login; retrieving a set of headset preference settings associated with the identified headset user from the headset memory by a host adapter, the host adapter being selectively coupled to the headset memory, the retrieving being based on the identity of the headset user, and the [host] adapter having performance parameters corresponding to the headset preference settings; setting the performance parameters of the host adapter to the headset preference settings associated with the identified headset user retrieved from the headset memory; and repeating said identifying, retrieving, and setting upon each user login, as claimed in claim 73.

Response to Arguments

40. Applicant's arguments filed 12 January 2004 have been fully considered but they are not persuasive.

41. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208

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USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Although none of the references cited disclose all the features of the rejected claims alone, when considered together, the combination of the various teachings to form the claimed invention is obvious.

42. In response to applicant's argument that there is a lack of motivation or suggestion to incorporate the memory and the stored preference settings of Wong et al. into the headset of Brint et al. because Brint et al. is not concerned with the coupling of unanticipated accessories, much less unanticipated combinations of accessories, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Conclusion

43. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony M Jacobson whose telephone number is 703-305-5532. The examiner can normally be reached on M-F 11:00-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W Isen can be reached on 703-305-4386. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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tmj
April 19, 2004


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PRIMARY EXAMINER